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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/088,661

07/19/2002

Nobuyuki Miyasaka

14875-103US1

2830

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7590

11/02/2006

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EXAMINER

WOODWARD, CHERIE MICHELLE

ART UNIT

PAPER NUMBER

1647

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/088,661	Applicant(s) MIYASAKA ET AL.	
	Examiner Cherie M. Woodward	Art Unit 1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-25 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 and 14-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/19/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/2/04, 7/19/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of Group I (claims 9 and 13) as drawn to a method of preventing or treating aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines, in the reply filed on 4 August 2006 is acknowledged. The traversal is on the grounds that the Sugiyama et al., reference does not teach that p21/CIP1 can be used to treat or prevent aberrant growth or inflammation of synovial tissue, as amended. In addition, Applicant argues that the grouping of claims in the Requirement for Restriction Election was not proper because the Examiner restricted dependent claims under lack of unity of invention as well as independent claims. Applicant's arguments have been fully considered, but they are not persuasive.

This is not found persuasive because the Sugiyama et al., reference teaches suppression of aberrant growth via cell cycle arrest through overexpression of p21/CIP1 in rheumatoid arthritis synovial tissue (see, entire document, especially, p. 448, column 2, last paragraph, to p. 449, column 1, first paragraph. Synovial tissue samples from human patients are taught at p. 442, column 2, last paragraph. Histological analysis of synovial tissue showing inflammation and p21/CIP1 expression is taught at p. 443, column 2, last paragraph and p. 444, Table 2. Over expression of p21/CIP1 in the sublining synovial cells of patients with RA is taught at p. 447, column 2, last paragraph. The inhibition of cell cycle progression by p21/CIP1 by suppressing cyclin/cyclin-dependent kinase activity in p53 dependent pathways is taught at p. 448, column 1. Further, Sugiyama et al., teaches that the wide-spread distribution of p21/CIP1 in fetal and adult tissues supports the concept that p21/CIP1 is functionally responsible for cell cycle arrest (p. 448, column 2, last paragraph, to p. 449, column 1, first paragraph).

Further, Applicant's representative arguments are directed to only a part of the regulations applicable to a restriction based on lack of unity. The examiner must first determine whether there is unity of invention among the independent claims. However, if the independent claims lack the special technical feature, the dependent claims also lack the special technical feature and they may be properly restricted. See MPEP 1850.

An international application should relate to only one invention or, if there is more than one invention, the inclusion of those inventions in one international application is only permitted if all inventions are so linked as to form a single general inventive concept (PCT Rule 13.1). With respect to a group of inventions claimed in an international application, unity of invention exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" is defined in PCT Rule 13.2 as

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meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art. The determination is made on the contents of the claims as interpreted in light of the description and drawings (if any). Whether or not any particular technical feature makes a "contribution" over the prior art, and therefore constitutes a "special technical feature," should be considered with respect to novelty and inventive step. For example, a document discovered in the international search shows that there is a presumption of lack of novelty or inventive step in a main claim, so that there may be no technical relationship left over the prior art among the claimed inventions involving one or more of the same or corresponding special technical features, leaving two or more dependent claims without a single general inventive concept.

Unity of invention has to be considered in the first place only in relation to the independent claims in an international application and not the dependent claims. By "dependent" claim is meant a claim which contains all the features of one or more other claims and contains a reference, preferably at the beginning, to the other claim or claims and then states the additional features claimed (PCT Rule 6.4). If the independent claims avoid the prior art and satisfy the requirement of unity of invention, no problem of lack of unity arises in respect of any claims that depend on the independent claims. In particular, it does not matter if a dependent claim itself contains a further invention. If, however, an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered. If there is no link remaining, an objection of lack of unity *a posteriori* (that is, arising only after assessment of the prior art) may be raised. Similar considerations apply in the case of a genus/species or combination/subcombination situation. See MPEP 1850, especially at II.

The requirement is still deemed proper and is therefore made FINAL.

Formal Matters

2. Claims 9-25 are pending. Claims 10-12 and 14-25 are withdrawn from consideration as being drawn to a non-elected invention. Claims 9 and 13 are under examination.

Objection to the Abstract

3. The abstract of the disclosure is objected to because the phrases "rheumatoid arthritis and the like" and "for example" are indefinite terms that fail to accurately provide an abstract description of the claimed invention. Correction is required. See MPEP § 608.01(b).

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4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts for compounds or compositions, the general nature of the compound or composition should be given as well as its use, *e.g.*, "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

Complete revision of the content of the abstract is required on a separate sheet.

Objections to the Specification

6. The use of the trademarks INVITROGEN, QIAGEN, PHARMACIA, and QIAEXPRESS (p. 9) have been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method of treatment involving p21/CIP1 protein.

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Claim Rejections - 35 USC § 112, First Paragraph

Enablement

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 9 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is undue include, but are not limited to: 1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability, 5) existence of working samples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The claims recite a method of preventing or treating aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue, the method comprising identifying a subject in need of treatment for aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue and increasing the amount or function of a p21/CIP1 protein in a joint of the subject; wherein the subject has rheumatoid arthritis.

Applicants' claims are excessively broad due, in part, to the unique nature of rheumatoid arthritis as a rheumatological disease, the diversity of cellular and proteoglycan components that comprise the synovium, and the complex repertoire of cytokines in inflammatory disease. The specification does not reasonably provide enablement for prophylaxis (prevention) of aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue by increasing the amount or function of a p21/CIP1 protein in a joint of any subject, including a subject with rheumatoid arthritis.

The state of the art discloses that the etiology of rheumatoid arthritis (RA) is unknown (Janeway et al., Immunobiology 5th Ed. 2001. Garland Publishing, New York, NY, at p. 502, Figure 13.1). Additionally, the art teaches that "among the panoply of cells in the rheumatoid synovium, increasing attention has been directed toward non-T cell elements as potential therapeutic targets" (Firestein, Arth & Rheum, Nov 1996; 39(14):1781-1790, at 1781, column 1, paragraph 1). Firestein teaches that in

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rheumatoid arthritis, “the synovial membrane becomes markedly hyperplastic, edematous, and infiltrated with inflammatory cells. The intimal lining is redundant and expansion of both type A and type B synoviocytes causes the formation of villous projections” (p. 1782, column 1, first full paragraph). The study of cytokine networks that contribute to the perpetuation of rheumatoid synovitis has provided some insight into the pathogenesis of the RA (p. 1783, column 2, last paragraph to p. 1784, column 1, first paragraph). Firestein also notes that recent studies have identified somatic p53 mutations in the synovium of patients with RA (p. 1787, column 1, first paragraph) and that while fibroblast-like synoviocytes (FLS) may not be involved in the etiology of RA, they likely serve as the primary source of factors that mediate joint destruction, such as matrix metalloproteinases (MMPs), serine proteases, and cathepsins, as well as small-molecule inflammatory mediators and cytokines (p. 1787, column 1, third paragraph). The level of skill of those in the art is extremely high due to the multifactorial parameters and complex humoral and cellular processes involved in RA.

The skilled artisan cannot envision the prevention of rheumatoid arthritis. Prevention involves “attacking” the underlying cause of rheumatoid arthritis (RA); i.e., disrupting the mechanisms which give rise to RA. The skilled artisan is aware that the causes of rheumatoid arthritis were unknown at the time of the invention herein. For purposes of enablement, the specification must provide reasonable detail in order for those skilled in the art to carry out the invention. In this case, the specification must disclose a means of preventing RA regardless of the underlying causes of RA. The teachings of the specification do not enable a person of ordinary skill in the art to make and use the claimed method of prophylaxis. Moreover, “[p]atent protection is granted only in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable.” *Genentech Inc. v. Novo Nordisk A/S*, 108 F.3d at 1366, 42 USPQ2d at 1005 (Fed. Cir.), cert. denied, 118 S. Ct. 397 (1997), (“Tossing out the mere germ of an idea does not constitute an enabling disclosure”).

Seven working models are disclosed in the specification. The first five of these examples disclose the use of gene therapy using adenoviral vectors comprising p21/CIP1 in combination with p16/INK4a, to inhibit synovial cell proliferation (pp. 22-29). These examples discuss both *in vitro* and *in vivo* (mouse/rat) methods of gene therapy using the combination of p21/CIP1 and p16/INK4a. Examples 6 and 7 (pp. 29-32), disclose gene therapy in rats by administering an adenoviral vector comprising p21/CIP1, alone, without p16/INK4a, *in vivo*. It is unclear from the first five examples whether administration of p21/CIP1 must coincide with administration of p16/INK4a in order to achieve the desired result of inhibition of synovial cell proliferation. Example 7 discusses the histopathology of the knee joints of rats one week after a 3-cycle transfection with p21/CIP1, alone. Example 7 shows some

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improvement in the synovium with reduced synovial thickening and reduced mononuclear cell infiltration (p. 31). However, the gene therapy undertaken in Example 6 (the histopathology of which is discussed in Example 7), using p21/CIP1 alone, produced results that were transient and became “less clear” two weeks after gene transfection (p. 30).

Although Applicant entirely fails to recite a way in which to carry out the claimed method, as written (i.e. there is no means by which the amount or function of a p21/CIP1 protein is to be affected), the specification provides only limited support for the use of gene therapy as a means by which to correlate the administration of p21/CIP1 protein and a transient, temporary reduction of synovial thickening. Verma et al., (Nature 18 September 1997; 389:239-242) teach that the inherent difficulties of gene therapy are (1) an inability to deliver genes effectively to the right type of cell to obtain sustained expression of the protein, (2) the choice of tissue in which to express the therapeutic protein, (3) how much of the therapeutic protein encoded by the nucleic acid should be delivered, and (4) obtaining sustained expression of the therapeutic protein without triggering the host immune responses (see p. 239, in particular). Given the lack of guidance and data showing sustained therapeutic value, it is unpredictable to determine whether gene therapy, using p21/CIP1, would be effective in treating or preventing aberrant growth or inflammation of synovial tissue in patients in need thereof or in patients with rheumatoid arthritis. As such, it would require undue experimentation of one skilled in the art to practice the claimed invention. See also, p. 1338, footnote 7 of Ex Parte Aggarwal, 23 USPQ2d 1334 (PTO Bd. Pat. App. & Inter. 1992).

Therefore, based on the discussions above concerning the art's recognition that the etiology of rheumatoid arthritis is unknown, the teachings of the specification do not enable a person of ordinary skill in the art to make and use the claimed method of prophylaxis/prevention, and the inherent difficulties of gene therapy, the specification fails to teach the skilled artisan how to use the claimed method without resorting to undue experimentation to determine how to prevent rheumatoid arthritis or how to treat aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial in patients in need thereof, including patients with rheumatoid arthritis.

Due to the large quantity of experimentation necessary to determine the etiology of rheumatoid arthritis, such that it may be prevented, the inherent difficulties involved in gene therapy, the lack of direction/guidance presented in the specification regarding same, the absence of sufficient working examples directed to same, the complex nature of the invention, the state of the prior art establishing that the etiology of rheumatoid arthritis is unknown and the inherent difficulties involved in gene therapy, and the breadth of the claims which fail to recite anything more than steps of identifying a subject and

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increasing the amount or function of a p21/CIP1 protein in a joint of a subject in need thereof or wherein the subject has rheumatoid arthritis, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention.

Claim Rejections - 35 USC § 112, Second Paragraph

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 9 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps. See MPEP § 2172.01. While all of the technical details of a method need not be recited, the claims should include enough information to clearly and accurately describe the invention and how it is to be practiced. The minimum requirements for method steps include a contacting step in which the reaction of the sample with the reagents necessary for the method is recited, a detection step in which the reaction steps are quantified or visualized, and a correlation step describing how the results of the method allow for the determination of whether the method is successful. As written, the claims fail to recite the steps of how to increase the amount or function of a p21/CIP1 protein in the joint of a subject, the means by which this is to occur, and the reagents, chemicals, or other components to be used to achieve the desired result.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugiyama et al., (Ann Rheum Dis. 1996; 55:442-449).

The claims recite a method of preventing or treating aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue, the method comprising identifying a subject in need of treatment for aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue and increasing the amount or function of a p21/CIP1 protein in a joint of the subject; wherein the subject has rheumatoid arthritis.

Sugiyama et al., teach suppression of aberrant growth via cell cycle arrest through overexpression of p21/CIP1 in rheumatoid arthritis synovial tissue (see, entire document, especially, p. 448, column 2, last paragraph, to p. 449, column 1, first paragraph). Synovial tissue samples from human patients are taught at p. 442, column 2, last paragraph. Histological analysis of synovial tissue showing inflammation and p21/CIP1 expression is taught at p. 443, column 2, last paragraph and p. 444, Table 2. Overexpression of p21/CIP1 in the sublining synovial cells of patients with RA is taught at p. 447, column 2, last paragraph. Further, Sugiyama et al., teach that the wide-spread distribution of p21/CIP1 in fetal and adult tissues supports the concept that p21/CIP1 is functionally responsible for cell cycle arrest (p. 448, column 2, last paragraph, to p. 449, column 1, first paragraph). Additionally, Sugiyama et al., teach identification of subjects in need of treatment for aberrant growth or inflammation of synovial tissue as patients diagnosed with rheumatoid arthritis (p. 442, column 2, last paragraph). Sugiyama et al., teach that the process of suppression of aberrant synovial cell growth occurs via cell cycle arrest through overexpression of p21/CIP1 and that this is a naturally occurring phenomena in the synovial tissue of patients with rheumatoid arthritis (p. 448, column 2, last paragraph, to p. 449, column 1, first paragraph). The inhibition of cell cycle progression by p21/CIP1 is carried out by suppressing cyclin/cyclin-dependent kinase activity in p53 dependent pathways (p. 448, column 1).

Because the instant claims are identical or substantially identical to the naturally occurring phenomena described by Sugiyama et al., the instant claims, as written, are anticipated Sugiyama et al. Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established (In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)).

14. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al., (Genes & Dev. 1 Jul 1997;11(13):1674-89).

The claims recite a method of preventing or treating aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue, the method comprising identifying a subject in need of treatment for aberrant growth or inflammation of synovial tissue or expression of inflammatory cytokines in synovial tissue and increasing the amount or function of a p21/CIP1 protein in a joint of the subject.

Smith et al., teach p21/CIP1-mediated inhibition of cell proliferation by overexpression of the gax homodomain gene. Overexpression of gax with a replication-defective adenovirus vector resulted in cell

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cycle arrest in vascular smooth muscle cells and fibroblasts (abstract and p 1681, column 1 and column 2). The gax-induced growth inhibition correlated with a p53-independent up-regulation of the cyclin-dependent kinase inhibitor p21 (abstract and p. 1683, column 1). Gax overexpression also led to an association of p21 with cdk2 complexes and a decrease in cdk2 activity (abstract and p. 1678, column 2), showing that gax overexpression can inhibit cell proliferation in a p21-dependent manner and can modulate injury-induced changes in vessel wall morphology that result from excessive cellular proliferation (abstract and p. 1679, Figure 6).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Terada et al., (J Am Soc Neph 1997 Jan;8(1):51-60), teach overexpression of cell cycle inhibitors p16/INK4 and p21/CIP1 and Cyclin D1 Using Adenovirus Vector Regulates Proliferation of Rat Mesangial Cells. (Compare Applicant's Examples 1-5.)
 - b. Taniguchi et al., (Nature Medicine. July 1999; 5(7):760-767), teach the induction of p16/INK4 senescence gene as a new therapeutic strategy for the treatment of rheumatoid arthritis.
 - c. Nonomura et al., (Internat Immunol. 2001 Jun; 13(6):723-731), teach suppression of arthritis by forced expression of cyclin-dependent kinase inhibitor p21/CIP1 gene into joints.
 - d. Nasu et al., (J Immunol 2000 Dec 15;165(12):7246-52) teach adenoviral transfer of cyclin-dependent kinase inhibitor genes suppresses collagen-induced arthritis in mice.
 - e. Nandabalan et al., US Patent Application Publication US 2003/0023034 A1 (30 January 2003, benefit to 18 June 1998), teach methods of using p27/KIP1 proteins and fusions to treat autoimmune and hyperproliferative disorders.
 - f. Patel et al., US Patent 6,420,345 B1 (16 July 2002, benefit to 9 December 1999) teach methods and reagents for inhibiting angiogenesis.

NO CLAIM IS ALLOWED.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cherie M. Woodward whose telephone number is (571) 272-3329. The examiner can normally be reached on Monday - Thursday 9:00am-7:30pm (EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMW

AU 1647

Marianne P. Allen

MARIANNE P. ALLEN
PRIMARY EXAMINER

10/27/06

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